Electronic Version
Stylesheet Version v1.1.1

[Lignocellulose-based anion-adsorbing medium (LAM) and process for making and using same for the selective removal of phosphate and arsenic anionic contaminants from aqueous solutions.]

Abstract

A lignocellulose-based anion-adsorbing medium (LAM) and process for making and using same for selectively removing phosphates and arsenic contaminants from aqueous solutions is disclosed. Making the LAM comprises (a) dissociating cations such as Fe and Al, from their counterions by adding a chemical compound containing said cations to water and acidifying; (b) pelletizing a lignocellulose; (c) adsorbing the cations to the lignocellulose by bringing the lignocellulose into contact with the solution of step (a) and incubating; and, (d) exposing the lignocellulose of step (c) to an alkaline fixing agent to replace hydrogens (H) of the hydroxyl groups of the lignocellulose with the adsorbed cations to produce the LAM with a positive charge. The LAM may be used to selectively and cost-effectively remove phosphate and arsenic

contaminants from aqueous solutions by retaining them at the Fe or Al on the LAM.